To: 5.1.2e [5.1.2e @LSHTM.ac.uk]
From: 5.1.2e
Sent: Tue 1/12/2021 2:47:09 PM
Subject: RE: vaccine efficacy against transmission?
Received: Tue 1/12/2021 2:47:10 PM

Thanks!
Best
5.1.2e

From: 5.1.2e <5.1.2e @LSHTM.ac.uk>
Sent: dinsdag 12 januari 2021 10:10
To: 5.1.2e <5.1.2e @rivm.nl>
Subject: Re: vaccine efficacy against transmission?

Not at the moment. I am hoping to talk with 5.1.2e later today, but this would be VE against disease, not infection.

There are data in the Oxford trials about VE against infection, but it is really difficult to interpret.

I spent a few hours looking at the NHP challenge studies for the different vaccines. By counting monkeys who had virus isolated from the upper airways you can get a guestimate of VE against infection. For Moderna and Pfizer this looks like it is about 2/3rds (very roughly and based on tiny numbers of monkeys). It isn't clear that the Oxford vaccine protects at all against infection, but they virtually bathed the poor animals in a soup of virus. I.e. they used a higher challenge dose and infected the monkeys through their eyes, nose and mouth. So, basically, it was a much more stringent test than the other companies used. Interestingly the J&J vaccine (which is similar to Oxford in that it is an Adenovirus vectored vaccine) also looks like it protects against infection in their NHP trial. They used a similar lower challenge dose and infected through the throat only (if I remember correctly). So, I suspect that the Oxford/AZ probably does protect as well, but not against a very high dose.

Finally, from the Moderna trial you can see that 1 dose gives 60% protection against infection, as they swabbed individuals when they vaccinated them (on first and second dose) and you can see a 60% reduction in swab positivity at the time of the second dose (21 days) in vaccinees compared with placebo recipients. This is roughly in line with the NHP study estimates.

5.1.2e

From: 5.1.2e <5.1.2e @rivm.nl>
Date: Tuesday, 12 January 2021 at 08:58
To: 5.1.2e <5.1.2e @LSHTM.ac.uk>
Subject: vaccine efficacy against transmission?

***** This message originated outside LSHTM *****

Hi 5.1.2e,

Hope you are doing ok. Here, we are calculating how to best deal with the ongoing replacement of current virus by the B117 lineage in the NL. We are working with various assumptions about the vaccine efficacy against transmission of the Pfizer, Moderna and Astrazeneca/Oxford vaccines. For the latter we have the published trial results suggesting about 60% VE against asymptomatic infection. I know that 5.1.2e is working hard to calculate VEs once data become available. Do you already have any other insights or evidence that might help us?

best,

5.1.2e